REMARKS

Claims 1-19 are pending in this application. By this Amendment, the specification is amended. Reconsideration based on the following remarks is respectfully requested.

The Office Action objects to the specification based on informalities. The specification has been amended to obviate the objection. Withdrawal of the objection to the specification is respectfully requested.

The Office Action rejects claims 1-19 under 35 U.S.C. §102(b) over U.S. Patent 6,425,644 to Kawahata *et al.* (hereinafter "Kawahata"). This rejection is respectfully traversed.

Kawahata does not teach or suggest a vehicular braking control apparatus comprising a master cylinder that generates a hydraulic pressure corresponding to a brake operating force, a first communication passageway that connects the master cylinder and a wheel cylinder of a braking apparatus in communication, a first open-close valve disposed on the first communication passageway, a stroke simulator that is connected to the first communication passageway between the first open-close valve and the master cylinder and that provides a reaction force corresponding to the brake operating force, a pressurization source that generates a predetermined hydraulic pressure, a hydraulic pressure adjusting portion that connects the pressurization source and the first communication passageway between the first open-close valve and the wheel cylinder and adjusts the hydraulic pressure applied to the wheel cylinder, a hydraulic pressure sensor that detects the hydraulic pressure on the first communication passageway between the first open-close valve and the master cylinder, and a control portion that, while a brake is not operated, closes the first open-close valve, and controls the hydraulic pressure adjusting portion so as to increase the hydraulic pressure on a wheel cylinder side of the first communication passageway while maintaining a closed state of the first open-close valve, and then opens the first open-close valve, and

determines whether there is an abnormality of the stroke simulator based on a change in outputs of the hydraulic pressure sensor before and after the first open-close valve is opened, as recited in claim 1.

Nor does Kawahata teach or suggest a method for detecting an abnormality of a braking apparatus that has a stroke simulator that provides a reaction force corresponding to a brake operating force, wherein a first open-close valve is disposed on a communication passageway that connects in communication a wheel cylinder of the braking apparatus and a master cylinder that generates a hydraulic pressure corresponding to the brake operating force, and wherein the stroke simulator is connected to the communication passageway between the first open-close valve and the master cylinder, the method comprising increasing a hydraulic pressure on a wheel cylinder side of the communication passageway while the first open-close valve is closed while a brake is not operated, opening the first open-close valve after increasing the hydraulic pressure on the wheel cylinder side, measuring a hydraulic pressure in a communication passageway between the first open-close valve and the stroke simulator which occur before and after the first open-close valve is opened, and determining whether there is an abnormality of the stroke simulator based on a change in the measured hydraulic pressure, as recited in claim 19.

For example, the specification discloses various exemplary aspects of a braking apparatus (1) having a master cylinder (14) and a pressurization source (4) supplying hydraulic pressure to wheel cylinders (48). The master cylinder (14) is connected to the wheel cylinders (48) by a communication passageway (supply channels 15, 46) within which are disposed an open-close valve (master cutoff valve 20) and a hydraulic pressure control portion (6). A hydraulic pressure adjusting portion within the control portion (6) includes a hold valve (52) and a pressure reducing (relief) valve (54). A stroke simulator (comprising a simulator valve 16 and a simulator body 18) and simulator cutoff valve (16) are disposed

between the master cylinder (14) and the cutoff valve (20). The master and simulator cutoff valves (20, 16) are normally in closed and open states, respectively so that hydraulic pressure from the pressurization source (4) supplies hydraulic pressure to the wheel cylinders (48).

Pressure sensors (24 for master cylinder, 56 for wheel cylinder) are disposed on the upstream and downstream sides of the supply channels (15, 46), respectively. The master pressure sensor (24) is disposed between the cutoff valve (20) and the master cylinder (14), while the wheel cylinder pressure sensor (56) is disposed between the pressure adjusting portion (52, 54) and the wheel cylinders (48). The pressure adjusting portion (52, 54) connects to the pressurization source (4) by pressure supply and discharge channels (30, 32). See paragraphs [**0017**] – [**0021**] and Fig. 1 of Applicant's disclosure.

To determine whether the stroke simulator (16, 18) is abnormal, while the brake is not operated, pressure to the wheel cylinder (48) is raised to reach a target level. Subsequently, the master cutoff valve (20), normally closed, is temporarily opened to release the hydraulic pressure to the master cylinder (14). The master pressure sensor (24) determines the difference in maximum measured pressures and the pressure change rates for the master cutoff valve (24) being open and closed, thereby identifying an anomalous response, if any, from the stroke simulator. Such an anomaly may cause available hydraulic pressure to dissipate below necessary levels. See paragraphs [**0026**], [**0030**] – [**0034**] and Figs. 4A and 4B of Applicant's disclosure. Applicant's claimed features provide for determining whether an abnormality exists for the stroke simulator independent of the brake operation, because the pressure measurement at the master cylinder is based on the first open-close valve (master cylinder cutoff valve 20) being opened and closed while the wheel cylinder pressure is at the target level.

Instead, Kawahata discloses a brake control apparatus responsive to a brake pedal 10. In particular, Kawahata teaches a braking system including a pump device 12, a second

hydraulic pressure source 14 (including a master cylinder 80) and wheel brakes 18 having brake cylinders 20, 28. The pump device 12 communicates with the brake cylinders 20, 28 by a fluid passage 170 in a dynamic hydraulic system 280. The pressure source 14 communicates with the brake cylinders 20, 28 by fluid passages 150, 160 in a static hydraulic system 282. Linear valve devices 30, each including a pressure increasing and reducing valves 172, 176, are disposed between the pump device 12 and the brake cylinders 20, 28. Between the pressure source 14 and the brake cylinders 20 is a stroke simulator device 159 that includes a simulator shutoff valve 158 and a stroke simulator 156, a master cylinder pressure sensor 210 and a master cylinder shutoff valve 152. The brake system further includes a brake switch 224 and speed sensors 226 for detecting vehicle speed and/or braking action (col. 16, lines 8-42, col. 20, lines 18-41, col. 22, lines 49-64 and Fig. 1 of Kawahata).

Kawahata further teaches using the linear valve devices 30 and the master cylinder shutoff valve 152 to switch between activating the active hydraulic system 280 that uses the pump device 12 and the passive hydraulic system 282 that uses the pressure source 14. For the normal state with the active hydraulic system 280, simulator shutoff valve 158 is open while the shutoff valve 152 is closed. Conversely, for the passive hydraulic system 282, the valve devices 30 and valve 158 are closed while the valve 152 is open such that in the event of an abnormality in the pump device 12, the pressure source 14 would operate without assistance from a hydraulic booster 78 (col. 23, lines 60 – col. 24, line 56 of Kawahata).

Moreover, Kawahata teaches diagnosing the simulator shutoff valve 158 based on the change of the operating stroke of the brake pedal 10 and of the chamber pressure in the pressure source 14. In particular, Kawahata teaches (1) holding the master cylinder shutoff valve 152 closed and the simulator shutoff valve 158 open while increasing the brake operating stroke, then (2) closing the simulator shutoff valve 158 while reducing the brake operating stroke. A rapid decrease of the master cylinder pressure indicates that the simulator

shutoff valve 158 is closed, while a gradual reduction means that the simulator shutoff valve 158 has failed open, thereby determining whether the simulator shutoff valve 158 is abnormal (col. 34, lines 35-52, col. 36, lines 38-50 and Fig. 12 of Kawahata).

Thus, Kawahata diagnoses the brake device while the brake is in operation. However, there is no teaching or suggestion in Kawahata for determining whether there is an abnormality of the stroke simulator (not merely the simulator valve) based on a change in outputs of the hydraulic pressure sensor before and after the first open-close valve is opened while a brake is not operated, as recited in Applicant's claimed features, and thereby irrespective of any braking operation.

A claim must be literally disclosed for a proper rejection under §102. This requirement is satisfied "only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" (MPEP §2131). Applicant asserts that the Office Action fails to satisfy this requirement with Kawahata.

For at least these reasons, Applicant respectfully asserts that the independent claims are patentable over the applied reference. The dependent claims are likewise patentable over the applied reference for at least the reasons discussed, as well as for the additional features they recite. Consequently, all the claims are in condition for allowance. Thus, Applicant respectfully requests that the rejection under 35 U.S.C. §102 be withdrawn.

In view of the foregoing, Applicant respectfully submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,

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